

### **Number/Computation**

**Concepts - Students will describe properties of, define, give examples of, and/or apply to both real-world and mathematical situations:**

MA-6-1.1.1 Fractions, decimals

MA-6-1.1.2 Not assessed

MA-6-1.1.3 Ratio

MA-6-1.1.4 Place value of whole numbers and decimals

MA-6-1.1.5 Positive whole number exponents

MA-6-1.1.6 Representation of fractions and decimals and their operations

**Skills - Students will perform the following mathematical operations and/or procedures accurately and efficiently, and explain how they work in real-world and mathematical situations:**

MA-6-1.2.1 Add, subtract, multiply, and divide fractions. Add, subtract, and multiply decimals to solve problems

MA-6-1.2.2 Estimate and predict computational results using whole numbers and decimals

MA-6-1.2.3 Apply ratios

MA-6-1.2.4 Identify and use prime numbers, composite numbers, prime factorization, factors, multiples, divisibility to solve problems. (e.g. prime factorization to determine LCM and GCF)

MA-6-1.2.5 Apply order of operations (+, -, x, / divide)

**Relationships - Students will show connections and how connections are made between concepts and skills, explain why procedures work, and make generalizations about mathematics in meaningful ways for the following relationships:**

MA-6-1.3.1 How whole numbers, fractions and decimals, relate to each other (e.g., convert between forms of rational numbers, compare, order)

MA-6-1.3.2 How properties such as commutative, associative, and identities show relationships among operations

M-1.3.3 How operations (addition and subtraction; multiplication and division) are inversely related

## GEOMETRY/MEASUREMENT

**Concepts – Students will describe properties of, define, give examples of, and/or apply to both real-world and mathematical situations:**

MA-6-2.1.1 Segments, rays, lines, angles, and planes

MA-6-2.1.2 Two-dimensional shapes, regular polygons, quadrilaterals (square, rectangle, rhombus, parallelogram, trapezoid) and triangles (acute, obtuse, right)

MA-6-2.1.3 Three-dimensional geometric shapes including spheres, cones, cylinders, prisms, (with polygonal bases), and pyramids (with polygonal bases)

MA-6-2.1.4 Congruence, symmetry, and similarity

MA-6-2.1.5 U.S. customary and metric units of measure

**Skills – Students will perform the following mathematical operations and/or procedures accurately and efficiently and explain how they work in real-world and mathematical situations:**

MA-6-2.2.1 Identify characteristics (e.g. sides, vertices, angles, congruent parts) of two-dimensional shapes.

MA-6-2.2.2 Use appropriate tools and strategies (e.g., combining and subdividing shapes) to find measures of squares and figures that can be divided into rectangular shapes

MA-6-2.2.3 Move shapes in Quadrant I coordinate plane: translate, rotate, reflect

MA-6-2.2.4 Estimate measurements in standard units including fractions and decimals

MA-6-2.2.5 Use formulas to find area and perimeter of triangles (not requiring use of Pythagorean theorem as a strategy) and quadrilaterals (rectangle, parallelogram, squares)

MA-6-2.2.6 Estimate and determine measurement of angles

MA-6-2.2.7 Not assessed

**Relationships – Students will show connections and how connections are made between concepts and skills, explain why procedures work, and make generalizations about mathematics in meaningful ways for the following relationships:**

MA-6-2.3.1 Not assessed

MA-6-2.3.2 Not assessed

MA-6-2.3.3 Not assessed

### **PROBABILITY/STATISTICS**

**Concepts- Students will describe properties of, define, give examples of, and/or apply to both real-world and mathematical situations:**

MA-6-3.1.1 Meaning of central tendency (mean, median, mode)

MA-6-3.1.2 Meaning of range

MA-6-3.1.3 Characteristics and appropriateness of graphs (e.g. bar, line), and plots (e.g. single stem-and-leaf)

**Skills- Students will perform the following mathematical operations and/or procedures accurately and efficiently, and explain how they work in real-world and mathematical situations:**

MA-6-3.2.1 Organize, represent, analyze, and interpret sets of data using tables, graphs (e.g. bar, line), and plots (e.g. single stem-and-leaf)

MA-6-3.2.2 Construct and interpret displays of data (e.g. tables, line graph, line plot, steam-and-leaf plot)

MA-6-3.2.3 Find mean, median, mode, and range

MA-6-3.2.4 Determine sample space of a simple event (e.g. flipping a coin, number cube, spinners)

MA-6-3.2.5 Make predictions (e.g. fair and unfair games) and draw conclusions from statistical data and probability experiments (e.g. flipping a coin, number cube, spinners)

MA-6-3.2.6 Use counting techniques, tree diagrams, and tables to solve probability problems

MA-6-3.2.7 Represent probabilities in multiple ways such as fractions, and decimals

**Relationships – Students will show connections and how connections are made between concepts and skills, explain why procedures work, and make generalization about mathematics in meaningful ways for the following relationships:**

MA-6-3.3.1 How different representations of data (e.g tables, stem-and-leaf, bar graph, line plot) are related

MA-6-3.3.2 How predictions can be based on probability data

MA-6-3.3.3 How data gathering affects interpretations and conclusions about data (e.g., polling only a specific group of people, using limited or extremely small sample size)

MA-6-3.3.4 How probability and statistics are used to make predictions and/or draw conclusions

### **Algebraic Thinking**

**Concepts - Students will describe properties of, define, give examples of, and/or apply to both real-world and mathematical situations:**

MA-6-4.1.1 Variables, expressions, and equations with a missing value

MA-6-4.1.2 Functions using tables, graphs, and verbal rules

MA-6-4.1.3 Quadrant I, ordered pairs, x and y axis, origin

**Skills - Students will perform the following mathematical operations and/or procedures accurately and efficiently, and explain how they work in real-world and mathematical situations:**

MA-6-4.2.1 Simplify numerical expressions

MA-6-4.2.2 Solve simple equations and inequalities

MA-6-4.2.3 Model one-step equations concretely

MA-6-4.2.4 Identify, create, and continue patterns (give an informal description for the continuance of the pattern and/or generalize patterns through a verbal rule)

MA-6-4.2.5 Create tables for functions

MA-6-4.2.6 Matching verbal rules with expressions to solve everyday situations

**Relationships - Students will show connections and how connections are made between concepts and skills, explain why procedures work, and make generalizations about mathematics in meaningful ways for the following relationships:**

MA-6-4.3.1 How tables and graphs and recognize patterns relate to each other

MA-6-4.3.2 How the change in one quantity affects a change in another quantity (e.g. in tables/graphs, input/output tables)